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(54) Title: SULFONIC ACID GROUP-CONTAINING ORGANIC-SILICA COMPOSITE MEMBRANE AND METHOD FOR PRODUCING THEREOF

(57) Abstract: Problems of the invention are to provide an organic-silica complex-type electrolyte membranewhich is expected to show electrolyte properties such as sufficient ion conductivity to be used in an electrochemical device, to have sufficient thermal resistance and mechanical strength in accordance with applications, to contain no halogen element which exerts a large environmental load, to be capable of being produced at low cost and, further, in view of being used in the electrochemical device, to suppress swelling even when impregnated with water, alcohol, a non-protonic polar solvent, an auxiliary electrolyte solution or the like, and, accordingly, to be excellent in a joining property and adhesiveness against an electrode, a method for producing the electrolyte membrane and the electrochemical device using the electrolyte membrane. To solve the problems, a production method for an organic-silica complex membrane having a sulfonic acid group which is characterized by having the steps of obtaining a sulfonic acid derivative by allowing an alkoxysilane compound having an amino group to react with a cyclic sultone and subjecting the sulfonic acid derivative to a condensation reaction is used.